

CLAIMS

- 1 1. A sound system for a vehicle comprising at least one door, said sound system
2 comprising:
3 a low-frequency loudspeaker having a resonant volume formed by a first cavity situated
4 inside of the door and by a second cavity situated outside of the door; and
5 means for pneumatically coupling said first and second cavities to form said resonant
6 volume.
- 1 2. The sound system according to claim 1, wherein said means for coupling comprises a
2 first opening in the first cavity and a second opening in the second cavity, said first and second
3 openings being arranged in close proximity to each other when said door is closed.
- 1 3. The sound system according to claim 2, wherein at least one of the two openings is
2 provided with a sealing lip, which is compressed when the door is closed and seals off the
3 coupling of the two cavities from the outside.
- 1 4. The sound system according to claim 2, wherein at least one of the two openings is
2 provided over the cross-sectional area with an acoustically neutral cover that is permeable to air.
- 1 5. The sound system according to claim 1, wherein the two cavities are coupled to one
2 another by a telescopic tube connection.

1 6. The sound system according to claim 5, wherein the telescopic tube connection has two
2 tubes that can be displaced one inside the other and engage in openings of the cavities.

1 7. The sound system according to claim 6, wherein at least one of the tubes is connected in
2 an articulated manner to one of the two cavities.

1 8. The sound system according to claim 7, wherein a partially flexible tube is provided for
2 the articulated connection.

1 9. The sound system according to claim 1, wherein the two cavities are coupled to one
2 another by a bellows, which connects two openings in the cavities.

1 10. The sound system according to claim 1, wherein the two cavities are coupled to one
2 another by a flexible hose that connects two openings in the cavities.

1 11. The sound system according to claim 10, wherein the low-frequency loudspeaker is
2 surrounded by a box defining the first or second cavity.

1 12. The sound system according claim 1, wherein at least one of the cavities is open to the
2 outside of the resonant volume via diffusion openings.

- 1 13. The sound system according to claim 1, wherein the second cavity includes a volume
2 defined at least by hollow parts of the support frame of the vehicle.
- 1 14. The sound system according to claim 13, wherein the support frame includes an A-pillar
2 of the vehicle.
- 1 15. The sound system according to claim 13, wherein the support frame includes a B-pillar of
2 the vehicle.
- 1 16. The sound system according to claim 13, wherein the support frame includes a sill of the
2 vehicle.
- 1 17. The sound system according to claim 1, wherein the second cavity includes a volume
2 surrounded by bodywork parts of the vehicle.
- 1 18. The sound system according to claim 17, wherein the low-frequency loudspeaker is
2 installed in the bodywork parts.
- 1 19. The sound system according to claim 1, in which the low-frequency loudspeaker is
2 arranged in the door.
- 1 20. The sound system according to claim 1, wherein the first cavity is pneumatically coupled
2 to a third cavity situated outside the door by further coupling devices.